



Product Guide 2024



PROCESS COOLING
SOLUTIONS



AIR CONDITIONING
SYSTEMS

Experience the
Best in **Heating & Cooling** Solutions

PSTHVAC.COM

WELCOME

Pars Sanat Tahviah co.

Welcome to PST HVAC Solutions

At PST, we take pride in providing the best HVAC solutions for industrial, commercial, and residential environments. With years of experience and the use of cutting-edge technology, our products are designed to deliver the best performance, efficiency, and comfort for you.

Our Products:

Residential and Commercial Chillers:

- ▶ High efficiency and optimized energy consumption
- ▶ Robust design and long lifespan
- ▶ Silent and reliable operation

Process Cooling System :

- Ideal for large and commercial buildings
- Smart systems with temperature and humidity control
- Easy installation and maintenance.

Fan Coil Units and Air Handlers:

- Suitable for residential and office environments
- Elegant and quiet design
- Precise temperature control capabilities

Our Mission:

At PST, our mission is to provide the best HVAC solutions to create comfortable, healthy, and efficient environments for all our customers. By focusing on innovation, quality, and customer satisfaction, we strive to be your top choice always.

Why Choose PST?

● **Expertise and Experience:** With over 20 years in the HVAC industry, we lead the way in offering innovative and efficient solutions for our customers.

● **Superior Quality:** Our products are manufactured using the best materials and the latest technologies to ensure the highest level of quality and durability.

● **Excellent Support:** Our support team is ready to provide consultation, installation, and maintenance services, ensuring we are always by your side.

FREE COOLING CHILLERS

Pars Sanat Tahviah co.

Free Cooling Chillers: An Efficient Solution for Year-Round Cooling

Our Free Cooling Chillers are designed to maximize energy efficiency and reduce operational costs by leveraging natural cooling when outdoor temperatures are low. Explore how these innovative chillers can benefit your operations.

Free Cooling Chillers are advanced cooling systems that utilize cool ambient air to provide cooling without relying solely on the compressor. When the outdoor temperature is sufficiently low, these chillers can switch to a free cooling mode, using outside air to cool the circulating water directly. This significantly reduces energy consumption and operational costs, especially in cooler climates or during the colder months of the year.

What are Free Cooling Chillers?

Benefits of Free Cooling Chillers

1. Energy Efficiency:

- By utilizing natural cooling, Free Cooling Chillers can dramatically lower energy usage. This is particularly beneficial during periods when outdoor temperatures drop, allowing the system to operate without the need for mechanical cooling.

2. Cost Savings:

- Reduced energy consumption leads to lower electricity bills and operational costs. Over time, the savings on energy expenses can be substantial, making Free Cooling Chillers a cost-effective solution for many businesses.

3. Environmental Impact:

- Lower energy usage translates to reduced greenhouse gas emissions, making Free Cooling Chillers an environmentally friendly option. This helps organizations meet sustainability goals and reduce their carbon footprint.

4. Extended Equipment Life:

- We source components from reputable suppliers who meet international safety standards, ensuring the reliability and safety of our HVAC systems.

Applications of Free Cooling Chillers

Data Centers:

- Data centers require constant and reliable cooling to prevent overheating of servers and other critical equipment. Free Cooling Chillers provide an efficient way to maintain optimal temperatures, even during colder months, reducing energy costs significantly.

Industrial Processes:

- Electrical Safety Tests:** We conduct tests to ensure that all electrical components and connections are safe and meet regulatory standards.

Commercial Buildings:

- Large commercial buildings, such as office complexes, shopping malls, and hospitals, can benefit from Free Cooling Chillers by reducing their energy consumption for air conditioning. This is particularly useful during the transitional seasons when outdoor temperatures are moderate.

Residential Complexes:

- In regions with cooler climates, residential complexes can utilize Free Cooling Chillers to provide efficient cooling for the inhabitants, ensuring comfort while keeping energy bills low.

How Free Cooling Chillers Work

1. Initial :

- During warmer periods, the chiller operates in standard mode, using the compressor to cool the circulating water.

2. Free Cooling Mode:

- When the outdoor temperature drops below a certain threshold, the chiller switches to free cooling mode. In this mode, the cool outdoor air is used to directly cool the circulating water through a heat exchanger.

3. Automatic Switching:

- The system is designed to automatically switch between mechanical cooling and free cooling based on the outdoor temperature, ensuring optimal energy efficiency at all times.



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SYSTEMS

PHOENIX FC

- Cooling capacity 296-968 kW



Model PNP - FC

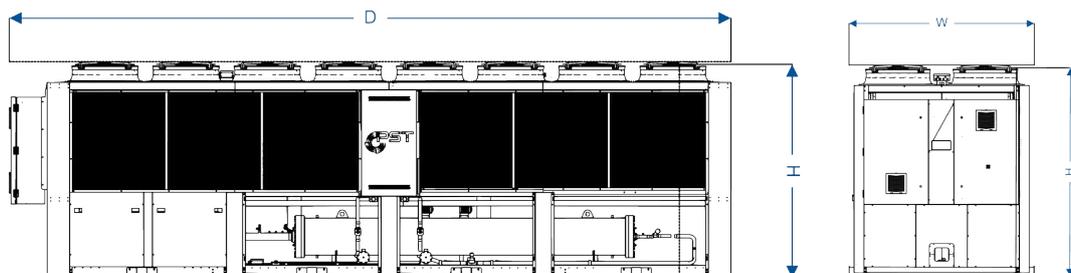
		140	160	180	220	250	280	320	360	420
FREE-COOLING OFF										
Cooling capacity	kW	296	365	420	498	542	620	726	850	968
Cooling capacity	TR	84.16	103.78	119.4	141.6	154	176.3	206.43	241.68	275.23
Total absorbed power	kW	97.4	115.32	130.4	151	170.6	189.32	229.32	252.4	297.6
EER	-	3.04	3.17	3.22	3.30	3.18	3.27	3.17	3.37	3.25
Max external air temperature	°C	48	48	48	49	47	48	47	47	46
FREE-COOLING ON 100%										
Free Cooling capacity	kW	293.6	364	415.2	494.4	532.8	610.4	721.6	840	960
Total Free Cooling Temperature	°C	-0.3	-2.8	-4.5	-0.5	-1	-4.5	-1.3	-5.7	-2.4
EER	-	24.46	29.54	32.43	25.75	27.75	32.60	27.83	33.01	32.00
EXCHANGERS										
Evaporator pressure drops	kPa	28	32	43	45	31	49	54	50	54
Water flow	m ³ /h	58.08	68.03	78.28	92.82	101.02	115.56	135.31	158.2	180.42
GENERAL DATA										
Refrigerant	-	R134A								
Circuits / Compressors	N°	2/2								
Capacity control	%	12.5 ~ 100								
Power supply	V/Ph/Hz	400 ± 10% / 3 - PE / 50								
Protection class	-	IP54								
NOISE LEVEL										
Noise pressure	dB(A)	68	68	68	69	69	70	70	70	70
Noise power	dB(A)	100	100	100	101	101	102	102	102	103
SIZE AND WEIGHT										
Depth	mm	5550	5550	5550	7190	7190	7190	8790	8790	10590
Width	mm	2290	2290	2290	2290	2290	2290	2290	2290	2290
Height	mm	2648	2648	2648	2648	2648	2648	2648	2648	2648
Weight	kg	4058	5089	5266	6370	6531	6723	8770	9297	10607

(1) External ambient temperature: 35°C; evaporator IN/OUT: 7/12°C

(2) Fluid Type : Water – Ethylene glycol 30 %

(3) Sound pressure at 10 m: average value obtained in free field on a reflective surface at a distance of 10 m from the side of the condenser coils and at a height of 1.6 m from the unit support base. Values with tolerance ± 2 Db. The sound levels refer to operation of the unit under full load in nominal conditions and with circulation pump.

The listed noise levels, weights and dimensions refer to base chillers with no options fitted. (NB: dimensions for lower noise and/or higher efficiency versions may differ.)



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